REMARKS

The comments of the applicant below are each preceded by related comments of the examiner (in small, bold type).

> **4. Claims 1-23, 27-37, 86, 101 -102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**
>
> **Independent claims 1, 27 and claim 102 have limitations including word: "subpixel".**
>
> **It is not clear, what the "subpixel" means? Is it color or monochrome? How many "subpixels" in one pixel?**

The claims have been amended.

> **4. Claims 1-18, 22, 24, 27-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Ogawa (US Patent No. 6,100,538).**
>
> **As to claim 1, Ogawa teaches a method (See Col. 1, Lines 7-22) comprising**
>
> **conveying light from a moving light source on the writing instrument as an indication of the location (See Figs. 1, items 2, 24, Col. 8, Lines 14-18) and path of the writing instrument on a two dimensional writing surface (See Fig. 1, items 1-2, Col. 4, Lines 18-33), sensing the light at two or more sensors and generating a sequence of signals representative of the sensed light (See Fig. 1, items 3L-3R, Col. 6, Lines 43-56), and applying a technique to increase the stability of subpixel reading (See Fig. 1, items 3L-3R, from Col. 6, Line 65 to Col. 7, Line 3).**

Claim 1 has been amended. In Ogawa, "[a] circuit component ... generates left angular information based on the one-dimensional linear image supplied from the linear image sensor" (col. 7, ll. 48-53). There is no indication of what resolution the sensor is capable of or at what resolution the angular information is reported (see, e.g., col. 10, ll. 59-67 – col. 11, ll. 1-36). Ogawa does not describe and would not have made obvious "calculating from the signals positions of the light at the two or more sensors, each at a resolution that is higher than the resolution of the pixels" or "increase[ing] a stability of [such a calculated] position."

> **As to claims 2-3, 10, ...**
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> **As to claims 4-5, 28-31, ...**
>
> **As to claims 6-7, 11, ...**
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> **As to claims 8-9, 32, ...**
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> **As to claim 12, ...**
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> **As to claim 13, ...**
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> **As to claim 14, ...**
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> **As to claim 15, ...**
>
> **As to claim 16-1 8, 22, ...**

As to claim 24, Ogawa teaches a method (See Col. 1, Lines 7-22) comprising conveying light from a moving light source on the writing instrument in a time-changing pattern of directions (See Figs. 1, items 2, 24, Col. 8, Lines 14-1 8) and path of the writing instrument on a two dimensional writing surface (See Fig. 1, items 1 - 2, Col. 4, Lines 18-33), sensing the light at two or more sensors located at two different locations spaced from the writing instrument (See Fig. 1, items 3L-3R, Col. 6, Lines 43- 56), and determining the location of the writing instrument by detecting a phase difference between signals measured at the two sensors (See Fig. 8, item S5, Col. 10, Line 21 - 58).

The applicant respectfully disagrees. The cited portion of Ogawa concerns noise elimination (see, e.g., col. 10, ll. 31-35), and neither discloses nor would have made obvious determining the location of the writing instrument by detecting (in the words of claim 24) "a phase difference between signals measured at the two or more sensors."

As to claim 27, Ogawa teaches apparatus (See Col. 1 , Lines 7-22) comprising sensors to receive light (See Fig. 1, items 3L-3R, Col. 6, Lines 43-56) from a writing instrument (See Figs. 1 , items 2, 24, Col. 8, Lines 14-1 8) moving across an X-Y writing surface, and featuring instability in subpixel reading (See Fig. 1, items 1 - 2, Col. 4, Lines 18-33), optics configured to enhance optical power of the light received from the writing instrument (See Figs. 1-2, items 3L-3R, from Col. 6, Line 65 to Col. 7, Line 3).

Claim 27 has been amended and is patentable for at least similar reasons as claim 1.

5. Claim 19 ...

6. Claim 20 ...

7. Claims 25-26 ...

8. Claims 83-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Stork et at. (US Patent No. 6,181,329 B1).

As to claim 83, Ogawa teaches a method comprising positioning a writing instrument at a succession of positions on a writing surface (See Fig. 1, items 1-2, Col. 4, Lines 18-33), generating signals representative at sensors from light received from writing instruments at the succession of position (See Fig. 1, items 3L-3R, Col. 6, Lines 43-56).

Ogawa does not disclose determining calibration parameters for the writing instrument for use in calibrating a process that determines the positions of the writing instrument as it is being moved.

Stork et al. teaches determining calibration parameters for the writing instrument for use in calibrating a process that determines the positions of the writing instrument as it is being moved (See from Col. 5, Line 54 to Col. 6, Line 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Stork et al. teaching into Ogawa system in order to use the writing instrument in many different environments (See Col. 1, Lines 31 -36 in the Stork et al. reference).

In amended claim 83, the calibration parameters determined for a writing instrument are used to calibrate a process that determines "the locations of the writing instrument as it is being moved on the writing surface." In Stork, by contrast, what the calibration aims to compensate are environmental variations that affect a determination of angular position and three-dimensional movement of a writing instrument. (col. 5, ll. 54-62)

Even in combination with the light sensor-based method of Ogawa, Stork would not describe and would not have made obvious the method of claim 83. The acceleration and angular velocity data produced by positioning the writing instrument in Stork in different angular positions relative to the X, Y, and Z axes would not be useful in calibrating a system using light received from the writing instrument to determine the location of the writing instrument on a writing surface. Positioning the writing instrument in different angular positions does not describe and would not have made obvious "locating [it] at a succession of locations on a writing surface."

Nor has the examiner identified any motivation to combine the references. Ogawa does not indicate that there is any need for calibration of its system, and Stork does not indicate that its method would be of any use in Ogawa. The environmental factors compensated for by the Stork system (altitude, temperature, i.e., factors that affect accelerometers and gyroscopes) are not relevant to using light sensors to determine the location of a writing instrument on a writing surface.

> **As to claim 84, ...**
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> **9. Claim 85 ...**
>
> **10. Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Behrends (US Patent No. 5,572,607).**
>
> **10 As best understood by examiner, Ogawa teaches a method comprising receiving light from a moving writing instrument (See Fig. 1, item 2) at a light sensor having an array of sensitive pixel elements (See Fig. 1, items 3L-3R, Col. 6, Lines 43-56 and Col. 7, Lines 44-48).**
>
> **Ogawa does not disclose determining the location in the array at which the maximum intensity of light has been received from the writing instrument, the location being determined with sub-pixel accuracy.**
>
> **Behrends teaches determining the location in the array at which the maximum intensity of light has been received from the writing instrument (See Fig. 7, item Ik, Col. 7, Lines 44-60).**
>
> **It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Behrends teaching into Ogawa system to improve correction of intensity (See Col. 2, Lines 38-44 in the Behrends reference).**

The applicant respectfully disagrees. Behrends does not describe and would not have made obvious "determining a location in the array at which the maximum intensity of light has been received," let alone doing so "with a resolution that is higher than the resolution of the pixel elements." Behrends does not disclose how the location of the coordinate pen 10b is determined by the digitization tablet 10a, nor does it describe detecting any intensity of light. The

"correction intensity Ik" to which the examiner refers is a data value assigned to the coordinates where the coordinate pen was positioned. (col. 5, ll. 14-19) The method of Behrends may assign a correction intensity value to intermediate points, but there is no mention of determining the location of coordinate pen 10b with a higher resolution than "the resolution of the pixel elements." As neither of the references cited contain this element of claim 101, the examiner has failed to state a prima facie case of obviousness.

The examiner has not provided any reasons for the rejection of claims 33-37 under §§ 102 or 103. The applicant notes that these claims and all the other dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

No fees are believed due at this time. Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 1/18/6

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